

Current Listing of Claims

1. (Currently Amended) A bi-phasic or multiphasic formulation comprising an aptamer, ribozyme, peptide nucleic acid, or antisense oligonucleotide or bioequivalent thereof having one or more phosphorothioate linkages, and a water-soluble anti-oxidant capable of inhibiting desulfurization of said oligonucleotide.
2. (Currently Amended) The formulation of claim 1, wherein said oligonucleotide or bioequivalent thereof comprises one or more base modifications.
3. (Currently Amended) The formulation of claim 1 wherein said oligonucleotide or bioequivalent thereof comprises one or more modified internucleoside linkages in addition to said one or more phosphorothioate linkages.
4. (Currently Amended) The formulation of claim 1, wherein said oligonucleotide or bioequivalent thereof comprises one or more sugar modifications.
5. (Original) The formulation of claim 4, wherein said sugar modification is a 2'-methoxyethoxy modification.
6. (Previously Presented) The formulation of claim 1, wherein said antioxidant is cysteine, glutathione, α -lipoic acid, a 2-mercaptop-5-benzimidazole salt or a 2-mercaptopethanesulfonic acid salt.
7. (Currently Amended) The formulation of claim 1, wherein said oligonucleotide is a ribozyme, an aptamer or an antisense oligonucleotide.

8. (Currently Amended) A method of preventing desulfurization of an ~~aptamer, ribozyme, peptide nucleic acid, or antisense~~ oligonucleotide ~~or bioequivalent thereof~~ comprising combining an the oligonucleotide having one or more phosphorothioate linkages with a water-soluble antioxidant in a bi-phasic or multi-phasic formulation.

9. (Currently Amended) The method of claim 8, wherein said oligonucleotide ~~or bioequivalent thereof~~ comprises one or more base modifications.

10. (Currently Amended) The method of claim 8, wherein said oligonucleotide ~~or bioequivalent thereof~~ comprises one or more modified internucleoside linkages in addition to said one or more phosphorothioate linkages.

11. (Currently Amended) The method of claim 8, wherein said oligonucleotide ~~or bioequivalent thereof~~ comprises one or more sugar modifications.

12. (Original) The method of claim 11, wherein said sugar modification is a 2'-methoxyethoxy.

13. (Previously Presented) The method of claim 8, wherein said antioxidant is cysteine, glutathione, α -lipoic acid, a 2-mercaptop-5-benzimidazole salt or a 2-mercaptopethanesulfonic acid salt.

14. (Currently Amended) The method of claim 8, wherein said oligonucleotide is a ribozyme, an aptamer or an antisense oligonucleotide.